

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 59-209438  
 (43)Date of publication of application : 28. 11. 1984

(51)Int. CI. B21D 53/30  
 B21D 22/16  
 B21H 1/06

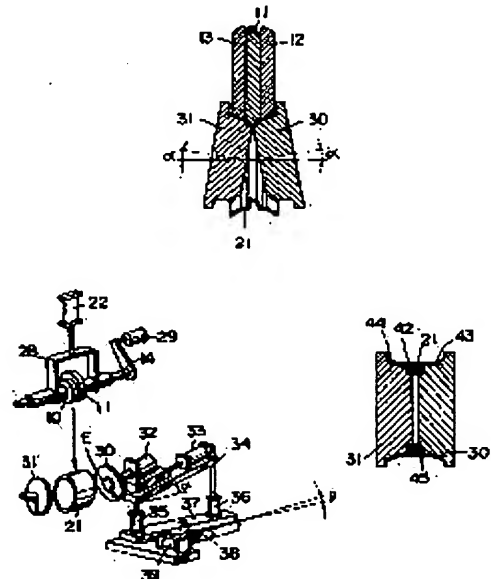
(21)Application number : 58-081716 (71)Applicant : TOPY IND LTD  
 (22)Date of filing : 12. 05. 1983 (72)Inventor : IZUMITANI MASATAKA  
 YOSHII KENJI

## (54) FORMING DEVICE OF CIRCULAR RING

## (57)Abstract:

PURPOSE: To prevent occurrence of buckling during forming of a circular ring by advancing and retreating inner rolls in axial direction and tilting the roll shaft from horizontality in vertical plane in forming a material ring by an outer roll and inner rolls.

CONSTITUTION: A material ring 21 is pressure held between inner rolls 30, 31, and expanded. Inner rolls 30, 31 are tilted by the action of cylinders 35, 36, and the ring is rotated while applying large compressive force to the upper part of the ring 21. The ring 21 is tilted in vertical direction by a cylinder 39, and pressed position is changed to circumferential direction. An outer roll 10 is pressed down, and both end parts of the ring 21 is pressed between flange part forming rolls 12, 13. Then, an eccentric shaft 14 is rotated by the action of a cylinder 29, and a drop part forming roll 11 is pressed down relatively against flange part forming rolls 12, 13. At this time, the drop part forming roll of inner rolls 30, 31 keeps the gap to the drop part forming roll 11 of outer roll 10 automatically in the thickness of the material ring by deformation of an elastic member 42. Thus, no reduction of thickness is caused in the material ring 21.



## LEGAL STATUS

[Date of request for examination]  
 [Date of sending the examiner's decision  
 of rejection]  
 [Kind of final disposal of application  
 other than the examiner's decision of

rejection or application converted  
registration]  
[Date of final disposal for application]  
[Patent number]  
[Date of registration]  
[Number of appeal against examiner's  
decision of rejection]  
[Date of requesting appeal against  
examiner's decision of rejection]  
[Date of extinction of right]

Copyright (C); 1998, 2003 Japan Patent Office